

Topic: Signs of fractions**Question:** Choose an equivalent fraction.

$$-\frac{2}{3}$$

Answer choices:

A $\frac{-2}{3}$

B $\frac{-2}{-3}$

C $\frac{2}{3}$

D None of these



Solution: A

For every fraction, there are always three signs: the sign of the numerator, the sign of the denominator, and the fraction's own sign.

In the original fraction, the sign of the numerator is positive, the sign of the denominator is positive, and the fraction's own sign is negative. So of the three signs, one is negative.

To keep the value of the fraction the same, you must change any two signs of the fraction. In the fraction

$$\frac{-2}{3}$$

compared to the original fraction, the sign of the numerator has been changed from positive to negative, and the fraction's own sign has been changed from negative to positive.

Since exactly two signs have been changed, these fractions are equivalent.



Topic: Signs of fractions**Question:** Multiply the fractions.

$$-\frac{6}{7} \cdot \frac{1}{2}$$

Answer choices:

A $-\frac{3}{7}$

B $-\frac{7}{3}$

C $\frac{3}{7}$

D $\frac{7}{3}$



Solution: A

When we multiply fractions, we multiply their numerators to get the new numerator, and we multiply their denominators to get the new denominator.

$$-\frac{6}{7} \cdot \frac{1}{2}$$

$$-\frac{6 \cdot 1}{7 \cdot 2}$$

$$-\frac{6}{14}$$

Now reduce the fraction to lowest terms.

$$-\frac{6 \div 2}{14 \div 2}$$

$$-\frac{3}{7}$$



Topic: Signs of fractions**Question:** Divide the fractions.

$$-\frac{1}{2} \div -\frac{3}{4}$$

Answer choices:

A $-\frac{2}{3}$

B $\frac{3}{2}$

C $-\frac{3}{2}$

D $\frac{2}{3}$



Solution: D

When we divide fractions, we flip the second fraction upside down to create its reciprocal, and change the division to multiplication.

$$-\frac{1}{2} \div -\frac{3}{4}$$

$$-\frac{1}{2} \times -\frac{4}{3}$$

To then do the fraction multiplication, we multiply all the numerators together to create the new numerator, and multiply all the denominators together to create the new denominator.

Remember that every pair of two negative signs cancel to become a positive sign, so the result here will be positive.

$$\frac{1 \cdot 4}{2 \cdot 3}$$

$$\frac{4}{6}$$

Now reduce the fraction to its lowest terms.

$$\frac{4 \div 2}{6 \div 2}$$

$$\frac{2}{3}$$

